

# ALASKA DEPARTMENT OF FISH AND GAME

## DIVISION OF COMMERCIAL FISHERIES

### NEWS RELEASE



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### **2015 Preliminary Kuskokwim Area Salmon Season Summary**

A total of 233,931 salmon were commercially harvested from the Kuskokwim Area (Table 1). A total of 396 individual permit holders (each making at least one recorded landing) participated in area commercial fisheries, which had an estimated exvessel value of \$869,112; this was below the most recent 10-year average value (Table 2).

### **Kuskokwim River**

#### **Preseason Forecast and Management Strategies**

The 2015 Kuskokwim River Chinook salmon forecast was for a return of 96,000–163,000. The drainagewide Chinook salmon sustainable escapement goal (SEG) is 65,000–120,000. Average subsistence Chinook salmon harvest is 84,000. If the run came back as forecasted then there would not have been enough Chinook salmon to provide for escapement and subsistence needs.

#### **Inseason Subsistence Management**

Preseason management actions including early season subsistence fishing restriction and tributary closures were jointly recommended by the Alaska Department of Fish and Game (ADF&G), and the United States Fish and Wildlife Service (USFWS) in an effort to achieve escapement goals. The Kuskokwim River Salmon Management Working Group (Working Group) supported these recommendations.

On May 21, a Special Action to close the Kuskokwim Chinook salmon fishery to non-Federally qualified users within the boundary of the Yukon Delta National Wildlife Refuge (NWR) went into effect. Subsistence fishing in the Kuskokwim River was restricted to the use of gillnets with 4-inch or less mesh size not to exceed 60-feet in length three days per week within the Yukon Delta NWR boundaries beginning May 21–July 1. This restriction was also implemented by ADF&G upstream of Aniak beginning June 4. Fishing for Chinook salmon with hook and line gear was closed drainagewide beginning June 4. An area at the mouth of the Kuskokwim River (east of the Ishkowik River to the northern boundary of District W-4) was also closed to

subsistence fishing on May 28, in order to provide additional protection to Chinook salmon entering the Kuskokwim River. USFWS instituted a community harvest permit program June 10–June 30 that allowed the harvest of up to 7,000 Chinook salmon within the Yukon Delta NWR boundaries.

ADF&G allowed subsistence fishing with dip nets and fish wheels upstream of the Yukon Delta NWR at Aniak beginning June 4. All Chinook salmon caught in a dip net were required to be immediately released unharmed. Fish wheels were required to be monitored closely or be equipped with a chute to facilitate the live release of Chinook salmon.

Beginning June 1, ADF&G implemented a test fishery near the village of Aniak on the mainstem Kuskokwim River to provide an assessment of species ratios and run timing of salmon leaving waters within the Yukon Delta NWR. As chum and sockeye salmon abundance started to exceed Chinook salmon abundance, as indicated by Bethel Test Fish (BTF) and Aniak Test Fish (ATF), limited subsistence fishing opportunity with 6-inch mesh gillnet gear was provided upstream of Aniak. The first 6-inch mesh fishing period on June 20 was restricted to Alaska residents 60 years of age or older and gillnets no longer than 10 fathoms in length. On July 2, ADF&G resumed management of the entirety of the Kuskokwim River and implemented restrictions in consistent with those in place upstream of the Yukon Delta NWR boundary to conserve Chinook salmon. Additional limited fishing opportunities on chum and sockeye salmon were allowed as those runs progressed. However, the chum salmon run was assessed to be poor based on low BTF catch per unit of effort (CPUE) indices. Restrictions continued until August 4 when all restrictions were rescinded.

Postseason subsistence harvest surveys are being conducted. An accounting of subsistence salmon harvest in 2015 will not be available until after postseason harvest surveys have been completed, data have been analyzed, and preliminary harvest estimates are produced.

## **District 1 Commercial Fishery**

### **2015 Commercial Harvest Outlook and Harvest**

	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Chum</u>
2015 Outlook	0	5,000–20,000	80,000–140,000	100,000–200,000
2015 Harvest	2	130	65,034	507

The first District 1 commercial fishing period was on August 10 and the last on August 21 with a total of three coho salmon directed commercial fishing periods (Table 3). The initiation of the commercial fishery was delayed until the Chinook and chum salmon runs had passed through the district as a conservative measure, as both species showed below average abundance at assessment projects. The BTF cumulative CPUE indicated that coho salmon escapement goals would be met; however, escapements at weir projects were delayed and were below average at the time, prompting limited commercial opportunity. End of season escapement counts indicated an above average total run for coho salmon. A total of 2 Chinook; 130 sockeye; 65,034 coho; and 507 chum salmon were commercially harvested (Table 3 and 4). During commercial periods six Chinook salmon were kept as personal use. Harvests of sockeye, coho, and chum salmon were well below their respective recent 10-year averages (Table 4). Landings were attributed to

283 individual permits. The price per pound for all salmon was \$0.50. Total exvessel value of \$246,016 which was below the most recent 10-year average value (Table 2).

## **Run Timing and Escapement**

### **Chinook Salmon**

Due to the early season subsistence fishery closures, BTF was limited as an indicator of Chinook salmon run timing. Subsistence harvest is historically weighted towards the beginning of the run, and the lack of this fishery resulted in the evaluation of a larger proportion early in the run than other years on record. Run timing was average but protracted over a longer period of time.

Chinook salmon escapements at Kogrukluk and George River weirs achieved their SEG's. The Kwethluk River exceeded the upper bound of the established SEG (Table 5). Seven tributaries have aerial survey SEGs and of these two tributaries were within the respective SEG ranges, one tributary exceeded the upper bound, and four tributaries were either below the SEG or stream conditions prevented an accurate survey (Table 6). The Kuskokwim River drainagewide SEG was achieved, but it will not be fully assessed until after estimates are made this winter.

### **Sockeye Salmon**

Based on BTF and escapements at tributary weirs, sockeye salmon run timing was late. Overall, sockeye salmon escapement was well above average across the drainage. The Kogrukluk River weir has the only established sockeye salmon escapement goal and the escapement was within the SEG. The Telaquana weir observed the highest escapement of sockeye salmon since 2010 (Table 7).

### **Chum Salmon**

Chum salmon run timing was late and all escapement projects showed a below average run. The SEG at the Kogrukluk River weir was achieved (Table 8).

### **Coho Salmon**

Coho salmon run timing was late, and escapements were above average with returns into the Kwethluk and Kogrukluk rivers achieving their SEGs (Table 9). Low, warm water in the spawning tributaries, during August, is theorized to have delayed coho salmon movement past the escapement monitoring sites.

## **Kuskokwim Bay**

### **2015 Commercial Harvest Outlook and Harvest, Districts 4 and 5**

	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Chum</u>
2015 Outlook	0–2,000	40,000–100,000	50,000–100,000	60,000–130,000
2015 Harvest	8,252	56,130	83,315	20,561

### **District 4 (Quinhagak)**

The District 4 commercial fishing season began on July 3 and ended on August 24. In an effort to conserve Chinook salmon the commercial fishing season was delayed from the normal start of June 15 and subsistence salmon fishing with gillnets was restricted to three 72 hour opportunities with 6 inch or less mesh gear for the month of June. To reduce harvest of Chinook salmon during commercial periods, a closed waters box around the mouth of the Kanektok River was

implemented during the July 3 and July 10 fishing periods. The closure box was intended to provide a sanctuary for Chinook salmon while still providing opportunity for fishermen to harvest abundant sockeye salmon. The effectiveness of this management action is unclear due to a larger than anticipated return of Chinook salmon. There were a total of 17 commercial fishing periods (Table 10). Due to chum salmon escapement concerns commercial fishing was suspended July 28 and resumed on August 5 for the coho salmon fishery.

A total of 7,547 Chinook; 30,269 sockeye; 76,285 coho; and 16,051 chum salmon were commercially harvested (Table 10 and 11). Catch rates for chum salmon were below average, while catch rates for Chinook, sockeye, and coho salmon were above average. Coho salmon harvest was above the most recent 10-year average. Chinook, sockeye, and chum salmon harvests were below the most recent 10-year averages (Table 11). A total of 189 individual permit holders (making at least one recorded landing) participated in the commercial fishery. All salmon were purchased at \$0.50 per pound. Total exvessel value of the fishery was \$491,481; which is significantly below the most recent 10-year average value (Table 2).

### **Run Timing and Escapement**

Based on escapement at the Kanektok River weir; the Chinook salmon run timing was average while sockeye and chum salmon run timing was late. Chinook salmon escapement was above average while the sockeye and chum salmon escapements were below average (Table 12). The Kanektok River Chinook salmon aerial survey SEG (range 3,500–8,000) was achieved with 4,919 fish observed, while the sockeye salmon aerial survey SEG (range 14,000–34,000) was exceeded with 39,970 fish observed (Table 12). The Chinook salmon run was anticipated to be similar in size to the 2014 run though both aerial survey and weir assessments indicate that the 2015 run was over double that of 2014. Coho salmon were not completely enumerated at the Kanektok River weir.

### **District 5 (Goodnews Bay)**

The District 5 commercial fishing season began on July 3 and ended on August 14. There were 13 commercial fishing periods. Over the last three years the Goodnews River has seen some of the lowest Chinook salmon escapements on record with the 2015 return expected to be similar to 2014. The subsistence salmon fishery was scheduled for three 72 hour gillnet opportunities with a mesh size of 6 inches or less, for the month of June, due to the concern for low Chinook salmon abundance. The commercial fishery was delayed until July 3 and the fishing district was reduced by half during the July 3–July 18 commercial periods, to minimize potential Chinook salmon harvest. Fishing periods were suspended after August 14 due to poor escapement of coho salmon at the Middle Fork Goodnews River weir.

A total of 705 Chinook; 25,861 sockeye; 7,030 coho; and 4,510 chum salmon were commercially harvested (Table 13 and 14). Chinook and coho salmon catch rates were below average. Catch rates for chum salmon were average and sockeye salmon catch rates were above average. Chinook, sockeye, coho and chum salmon harvests were below the most recent 10-year averages. The Chinook and chum salmon harvest were the third lowest in the most recent 10 years, while coho salmon harvest was the fourth lowest on record. A total of 61 individual permit holders participated in the fishery. Chinook, sockeye, chum, and coho salmon were purchased for \$0.50 per pound. Total exvessel value of the fishery was \$131,616; which is below the most recent 10-year average value (Table 2).

## **Run Timing and Escapement**

Based on escapement counts at the Goodnews River weir; Chinook, sockeye, and chum salmon run timing was one to three days earlier than average. The Chinook salmon biological escapement goal (BEG) of 1,500–2,900 fish was not met with an estimated escapement of 1,398 fish (Table 15). The sockeye salmon BEG (range 18,000–40,000) was exceeded with an estimated escapement of 54,383 fish. The chum salmon lower bound SEG of 12,000 was not achieved with an estimated escapement of 10,885 fish (Table 15). The Middle Fork Goodnews River weir was removed on September 1; on that date 15,084 coho salmon had been observed which exceeded the lower bound SEG of 12,000 fish. An aerial survey was flown at the North Fork Goodnews River on July 27 and indicated that the Chinook salmon aerial survey SEG of 640–3,300 fish was achieved with a count of 991 fish, while the sockeye salmon SEG of 5,500–19,500 was exceeded with 38,390 fish.

Table 1.—Commercial salmon harvest and exvessel value by District, Kuskokwim Area, 2015.

	Chinook	Sockeye	Coho	Pink	Chum	Total
<b>Lower Kuskokwim River, District 1</b>						
Fish	2	130	65,034	0	507	65,673
Pounds	18	790	488,089	0	3,134	492,031
Price	\$0.50	\$0.50	\$0.50	\$0.00	\$0.50	
Value	\$9	\$395	\$244,045	\$0	\$1,567	\$246,016
<b>Recent 10-yr Average 2005–2014</b>						
Fish	2,606	12,449	116,653	3	57,914	189,624
Value	\$23,306	\$60,283	\$429,505	\$0	\$131,718	\$644,811
<b>Quinhagak, District 4</b>						
Fish	7,547	30,269	76,285	0	16,051	130,152
Pounds	75,368	180,445	641,955	0	101,673	999,441
Price	\$0.50	\$0.49	\$0.49	\$0.49	\$0.49	
Value	\$37,659	\$90,164	\$312,926	\$0	\$50,732	\$491,481
<b>Recent 10-yr Average 2005–2014</b>						
Fish	13,130	76,621	40,443	2	60,745	190,940
Value	\$140,881	\$362,659	\$172,940	\$0	\$177,872	\$854,353
<b>Goodnews Bay, District 5</b>						
Fish	705	25,861	7,030	0	4,510	38,106
Pounds	7,645	163,702	61,474	0	30,410	263,231
Price	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	
Value	\$3,823	\$81,851	\$30,737	\$0	\$15,205	\$131,616
<b>Recent 10-yr Average 2005–2014</b>						
Fish	1,690	31,860	18,833	0	12,963	65,346
Value	\$18,473	\$167,111	\$108,853	\$0	\$41,116	\$335,552
<b>Kuskokwim Area Total</b>						
Fish	8,254	56,260	148,349	0	21,068	233,931
Pounds	83,031	344,937	1,191,518	0	135,217	1,754,703
Price	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	
Value	\$41,491	\$172,410	\$587,707	\$0	\$67,504	\$869,112
<b>Recent 10-yr Average 2005–2014</b>						
Fish	17,426	120,931	175,928	5	131,621	445,911
Value	\$182,660	\$590,052	\$711,298	\$1	\$350,706	\$1,834,716

Table 2.—Commercial salmon fishing estimated exvessel value and permits fished by district, Kuskokwim Area, 2005–2015.

Year	District 1		District 4		District 5		Total	
	Value	Permits <sup>a</sup>	Value	Permits <sup>a</sup>	Value	Permits <sup>a</sup>	Value	Permits <sup>a</sup>
2005	\$448,853	403	\$571,965	145	\$134,295	29	\$1,155,113	484
2006	\$451,390	373	\$551,182	132	\$141,235	24	\$1,143,807	453
2007	\$380,840	366	\$659,865	125	\$223,303	28	\$1,264,008	456
2008	\$538,310	374	\$750,731	146	\$198,070	25	\$1,487,111	462
2009	\$502,848	342	\$747,325	179	\$192,031	39	\$1,442,204	434
2010	\$765,606	433	\$1,655,321	241	\$473,661	48	\$2,894,588	530
2011	\$764,357	413	\$1,176,436	219	\$346,022	48	\$2,286,815	510
2012	\$597,998	379	\$824,435	179	\$617,765	58	\$2,040,198	477
2013	\$1,184,847	378	\$761,537	197	\$452,651	71	\$2,399,035	469
2014	\$813,064	358	\$844,734	194	\$576,488	61	\$2,234,286	457
2015	\$246,016	283	\$491,481	189	\$131,616	61	\$869,112	396
Average								
2005–2014	\$644,811	382	\$854,353	176	\$335,552	43	\$1,834,716	473

<sup>a</sup> Number of permits that made at least one delivery.

Table 3.—Commercial harvest by period in the District 1, Kuskokwim River, 2015.

Date	Permits	Hours	Subdistrict	Permit	Chinook		Sockeye		Coho		Chum	
	Fished	Fished		Hours	Catch	CPUE	Catch	CPUE	Catch	CPUE	Catch	CPUE
Aug 10	186	6	1-B	1,116	0	0.0	99	0.1	22,966	20.6	357	0.3
Aug 17	221	6	1-B	1,326	0	0.0	6	0.0	28,013	21.1	102	0.1
Aug 21	205	6	1-B	1,230	2	0.0	25	0.0	14,055	11.4	48	0.0
Total	283	18		3,672	2		130		65,034		507	

Table 4.—Commercial salmon harvest, excluding personal use, District W-1, Kuskokwim River, Kuskokwim Management Area, 2005–2015.

Year	Chinook	Sockeye	Coho	Chum	Total
2005	4,784	27,645	142,319	69,139	243,887
2006	2,777	12,618	185,598	44,070	245,063
2007	179	703	141,049	10,763	152,694
2008	8,865	15,601	142,862	30,516	197,844
2009	6,664	25,673	104,546	76,790	213,673
2010	2,731	22,428	58,031	93,148	176,338
2011	49	13,482	74,108	118,256	205,895
2012	14	2,857	86,389	65,171	154,431
2013	1	768	114,069	52,235	167,073
2014	0	2,720	117,588	19,080	139,388
2015	2	130	65,034	507	65,673
Average					
2005–2014	2,606	12,450	116,656	57,917	189,629



Table 5.—Chinook salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area 2005–2015.

Year	Chinook Salmon Escapement					Salmon
	Kwethluk	Tuluksak	George	Kogrukuk	Tatlawiksuk	
2005	<sup>a</sup>	2,653	3,845	21,819	2,864	<sup>a</sup>
2006	17,619	1,043	4,355	20,205	1,700	7,075
2007	12,927	374	4,011	<sup>a</sup>	2,032	6,255
2008	5,276	701	2,563	9,750	1,075	2,376
2009	5,744	362	3,663	9,528	1,071	1,656
2010	1,667	201	1,498	5,812	546	<sup>a</sup>
2011	4,079	288	1,547	6,731	992	<sup>a</sup>
2012	<sup>a</sup>	555	2,201	<sup>a</sup>	1,116	<sup>a</sup>
2013	<sup>a</sup>	193	1,292	1,819	495	625
2014	3,187	320	2,993	3,732	1,904	1,757
2015 <sup>b</sup>	8,163	709	2,281	7,639	2,095	2,285
SEG	4,100– 7,500		1,800– 3,300	4,800– 8,800		
Average 2005–2014	7,214	669	2,797	9,925	1,380	3,291

<sup>a</sup> Weir did not operate or counts were incomplete.

<sup>b</sup> Preliminary numbers subject to change.

Table 6.—Chinook salmon spawning aerial survey index estimates, Kuskokwim River Drainage, Kuskokwim Management Area, 2005–2015.

Year	Lower Kuskokwim River <sup>a</sup>				Middle Kuskokwim River <sup>a</sup>						Upper Kuskokwim River <sup>a</sup>			
	Eek	Kwethluk Canyon C.	Kisaralik	Tuluksak	Aniak	Kipchuk	Salmon	Holokuk	Oskawalik	Holitna	Gagarayah	Cheeneetnuk	Salmon (Pitka)	Bear (Pitka)
2005	<sup>b</sup>	5,059	2,206	672	<sup>b</sup>	1,679	4,097	268	582	1,760	788	1,155	1,801	367
2006	<sup>b</sup>	<sup>b</sup>	4,734	<sup>b</sup>	5,639	1,618	<sup>b</sup>	365	386	1,866	531	1,015	862	347
2007	<sup>b</sup>	<sup>b</sup>	692	173	3,984	2,147	1,458	146	<sup>b</sup>	<sup>b</sup>	1,035	<sup>b</sup>	943	165
2008	<sup>b</sup>	487	1,074	<sup>b</sup>	3,222	1,061	589	190	213	<sup>b</sup>	177	290	1,305	245
2009	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	390	379	<sup>b</sup>	303	323	632	209
2010	<sup>b</sup>	<sup>b</sup>	235	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>	108	<sup>b</sup>	587	62	<sup>b</sup>	135	75
2011	263	<sup>b</sup>	534	<sup>b</sup>	<sup>b</sup>	116	79	20	26	<sup>b</sup>	96	249	767	145
2012	<sup>b</sup>	<sup>b</sup>	610	<sup>b</sup>	<sup>b</sup>	193	49	9	51	<sup>b</sup>	178	229	670	<sup>b</sup>
2013	240	1,165	597	83	754	261	154	29	38	670	74	138	475	64
2014	206	<sup>b</sup>	622	<sup>b</sup>	3,201	1,220	497	80	200	1,785	359	340	1,865	<sup>b</sup>
2015	<sup>b</sup>	<sup>b</sup>	709	<sup>b</sup>	<sup>b</sup>	917	810	77	<sup>b</sup>	662	19	<sup>b</sup>	2,016	1,381
Escapement			400–		1,200–		330–			970–	300–	340–	470–	
Goal Range:			1,200		2,300		1,200			2,100	830	1,300	1,600	
Average														
2005–2014	236	2,237	1,256	309	3,360	1,037	989	161	234	1,334	360	467	946	202

<sup>a</sup> Estimates are from aerial surveys conducted during peak spawning periods under 'good' or 'fair' survey conditions.

<sup>b</sup> Survey was either not flown or did not meet acceptable survey criteria.

Table 7.—Sockeye salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area 2005–2015.

Year	Sockeye Salmon Escapement						Salmon (Aniak)
	Kwethluk	Tuluksak	George	Kogrukluk	Tatlawiksuk	Telaquana	
2005	<sup>a</sup>	642	272	37,787	74	<sup>a</sup>	<sup>a</sup>
2006	6,733	985	146	61,382	38	<sup>a</sup>	7,086
2007	5,148	352	65	17,211	25	<sup>a</sup>	2,189
2008	2,451	188	92	19,675	39	<sup>a</sup>	1,181
2009	4,230	686	54	22,826	39	<sup>a</sup>	1,366
2010	4,188	437	113	17,139	28	72,021	<sup>a</sup>
2011	2,031	130	43	7,974	15	35,105	<sup>a</sup>
2012	<sup>a</sup>	189	79	<sup>a</sup>	9	22,994	924
2013	<sup>a</sup>	394	150	7,808	37	27,806	966
2014	3,778	514	156	6,413	9	23,820	894
2015 <sup>b</sup>	8,975	824	139	6,362	0	91,164	1,461
SEG	4,400–17,000						
Average							
2005–2014	4,692	486	113	23,975	34	39,482	2,285

<sup>a</sup> Weir did not operate or counts were incomplete.

<sup>b</sup> Preliminary numbers subject to change.

Table 8.—Chum salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area 2005–2015.

Year	Chum Salmon Escapement						Salmon (Aniak)
	Kwethluk	Tuluksak	George	Kogruklu	Tatlawiksuk	Aniak	
2005	<sup>a</sup>	35,696	14,834	194,887	55,599	1,151,505	<sup>a</sup>
2006	47,491	25,652	42,318	188,003	32,776	1,108,626	42,825
2007	54,913	17,286	61,531	52,961	83,484	696,801	25,340
2008	20,030	12,550	29,396	44,744	30,129	427,911	9,459
2009	32,191	13,671	7,944	82,483	19,975	479,531	9,392
2010	19,222	13,042	26,275	69,258	37,737	429,643	<sup>a</sup>
2011	18,329	10,011	46,650	76,823	88,202	345,630	<sup>a</sup>
2012	<sup>a</sup>	16,981	33,310	<sup>a</sup>	44,569	<sup>a</sup>	<sup>a</sup>
2013	<sup>a</sup>	12,911	37,879	65,644	32,249	<sup>a</sup>	7,723
2014	17,941	8,726	17,148	30,763	12,455	<sup>a</sup>	2,890
2015 <sup>b</sup>	23,039	6,337	17,415	31,657	10,008	<sup>a</sup>	5,392
SEG				15,000– 49,000		222,000– 480,000	
Average 2005–2014	30,017	16,653	31,729	89,507	43,718	662,807	16,272

<sup>a</sup> Weir did not operate or counts were incomplete.

<sup>b</sup> Preliminary numbers subject to change.

Table 9.—Coho salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area, 2005–2015.

Year	Coho Salmon Escapement					
	Kwethluk	Tuluksak	George	Kogrukluk	Tatlawiksuk	Salmon (Aniak)
2005	a	11,324	8,294	25,407	7,076	a
2006	25,667	6,111	12,705	16,268	a	a
2007	19,473	2,807	28,398	26,423	8,500	a
2008	48,049	7,457	21,931	29,237	11,022	10,974
2009	21,911	8,137	12,490	22,289	10,148	6,351
2010	a	1,525	12,639	14,689	3,773	a
2011	a	a	29,120	21,800	14,184	a
2012	20,895	4,407	14,478	13,421	8,015	a
2013	a	6,490	15,308	21,207	12,764	2,797
2014	43,945	13,797	35,771	52,975	19,814	8,254
2015 <sup>b</sup>	24,367	7,158	33,642	29,277	17,319	a
SEG	>19,000			13,000– 28,000		
Average 2005–2014	29,990	6,895	19,113	24,372	10,588	7,094

<sup>a</sup> Weir did not operate or counts were incomplete.

<sup>b</sup> Preliminary numbers subject to change.

Table 10.—Commercial harvest by period in the District 4, Kuskokwim Bay, 2015.

Date	Permits	Hours	Permit	Chinook		Sockeye		Coho		Chum	
	Fished	Fished	Hours	Catch	CPUE	Catch	CPUE	Catch	CPUE	Catch	CPUE
Jul 3	120	12	1,440	3152	2.2	4,816	3.3	0	0.0	1,167	0.8
Jul 10	130	12	1,560	1,611	1.0	6,139	3.9	0	0.0	1,341	0.9
Jul 15	99	12	1,188	1,015	0.9	6,113	5.1	0	0.0	3,219	2.7
Jul 17	50	12	600	371	0.6	2,195	3.7	0	0.0	1,805	3.0
Jul 20	64	12	768	369	0.5	3,104	4.0	0	0.0	1,569	2.0
Jul 22	55	12	660	414	0.6	2,680	4.1	229	0.3	2,676	4.1
Jul 24	61	12	732	201	0.3	1,721	2.4	182	0.2	1,161	1.6
Jul 27	44	12	528	120	0.2	1,253	2.4	364	0.7	1,121	2.1
Aug 5	49	12	588	73	0.1	384	0.7	3,298	5.6	405	0.7
Aug 7	68	12	816	54	0.1	490	0.6	4,082	5.0	391	0.5
Aug 10	65	12	780	32	0.0	510	0.7	8,222	10.5	278	0.4
Aug 12	105	12	1,260	45	0.0	361	0.3	10,110	8.0	354	0.3
Aug 14	105	12	1,260	29	0.0	151	0.1	10,813	8.6	164	0.1
Aug 17	67	12	804	24	0.0	150	0.2	11,435	14.2	156	0.2
Aug 19	127	12	1,524	22	0.0	117	0.1	11,912	7.8	96	0.1
Aug 21	86	12	1,032	12	0.0	56	0.1	8,368	8.1	87	0.1
Aug 24	68	12	816	3	0.0	29	0.0	7,270	8.9	61	0.1
Total	189	204	16,356	7,547		30,269		76,285		16,051	

Table 11.—Commercial salmon harvest District 4, Quinhagak, Kuskokwim Bay, 2005-2015.

Year	Chinook	Sockeye	Coho	Chum	Total
2005	24,195	68,801	51,780	13,529	158,305
2006	19,184	106,308	26,831	39,151	191,474
2007	19,573	109,343	34,710	61,228	224,854
2008	13,812	69,743	94,257	57,033	234,845
2009	13,920	112,153	48,115	91,158	265,346
2010	14,230	138,362	13,690	106,610	272,892
2011	15,387	38,543	30,457	104,959	189,346
2012	6,675	37,688	31,214	61,140	136,717
2013	2,054	26,393	58,079	21,126	107,652
2014	2,265	58,879	52,317	14,563	128,024
2015	7,547	30,269	76,285	16,051	130,152
Average					
2005–2014	13,130	76,621	44,145	57,050	190,946

Table 12.—Kanektok River salmon spawning escapement estimates, 2005–2015.

Year	Weir Escapement				Aerial Survey Escapement	
	Chinook	Sockeye	Coho	Chum	Chinook <sup>a</sup>	Sockeye <sup>b</sup>
2005	14,177	268,537	<sup>c</sup>	55,340	14,202	110,730
2006	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>	8,433	382,800
2007	13,965	304,086	<sup>c</sup>	131,000	<sup>d</sup>	<sup>d</sup>
2008	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>	3,659	38,900
2009	7,065	305,756	<sup>c</sup>	55,846	<sup>d</sup>	<sup>d</sup>
2010	6,537	204,954	<sup>c</sup>	68,186	1,228	16,950
2011	5,170	88,177	<sup>c</sup>	53,050	<sup>d</sup>	<sup>d</sup>
2012	1,561	115,021	<sup>c</sup>	28,726	<sup>d</sup>	<sup>d</sup>
2013	3,569	128,761	<sup>c</sup>	43,040	2,346	64,802
2014	3,594	259,406	<sup>c</sup>	18,602	1,871	148,800
2015 <sup>e</sup>	10,416	106,751	<sup>c</sup>	15,048	4,919	39,970
Average						
2005–2014	7,435	202,185		62,170	5,974	122,836

<sup>a</sup> Chinook salmon SEG is 3,500–8,000 fish.

<sup>b</sup> Sockeye salmon SEG is 14,000–34,000 fish.

<sup>c</sup> Weir did not operate or counts were incomplete.

<sup>d</sup> Survey was either not flown or did not meet acceptable survey criteria.

<sup>e</sup> Preliminary numbers subject to change.

Table 13.—Commercial harvest by period in the District 5, Kuskokwim Bay, 2015.

Date	Permits	Hours	Permit	Chinook		Sockeye		Coho		Chum	
	Fished	Fished	Hours	Catch	CPUE	Catch	CPUE	Catch	CPUE	Catch	CPUE
Jul 3	34	12	408	149	0.4	2,428	6.0	0	0.0	316	0.8
Jul 10	37	12	444	164	0.4	4,012	9.0	0	0.0	728	1.6
Jul 13	44	6	264	75	0.3	2,955	11.2	0	0.0	531	2.0
Jul 15	29	12	348	63	0.2	3,395	9.8	0	0.0	790	2.3
Jul 17	14	12	168	36	0.2	1,499	8.9	0	0.0	164	1.0
Jul 18	26	12	312	44	0.1	2,549	8.2	1	0.0	491	1.6
Jul 20	29	12	348	32	0.1	1,962	5.6	1	0.0	433	1.2
Jul 22	20	12	240	31	0.1	1,935	8.1	4	0.0	365	1.5
Jul 24	21	12	252	39	0.2	1,712	6.8	40	0.2	294	1.2
Jul 27	18	12	216	28	0.1	1,175	5.4	41	0.2	177	0.8
Aug 7	26	12	312	12	0.0	842	2.7	740	2.4	78	0.3
Aug 10	27	12	324	15	0.0	789	2.4	1,840	5.7	63	0.2
Aug 14	31	12	372	17	0.0	608	1.6	4,363	11.7	80	0.2
Total	61	150	4,008	705		25,861		7,030		4,510	



Table 14.—Commercial salmon harvests, District W-5 Goodnews Bay, Kuskokwim Bay, 2005–2015.

Year	Chinook	Sockeye	Coho	Chum	Total
2005	2,035	23,933	11,735	2,568	40,271
2006	2,892	29,857	12,436	11,568	56,753
2007	3,126	43,766	13,697	7,853	68,442
2008	1,281	27,237	22,547	10,408	61,473
2009	1,509	32,544	8,406	16,985	59,444
2010	1,752	41,074	4,900	26,914	74,640
2011	2,092	24,573	15,358	13,191	55,214
2012	1,531	50,635	25,515	24,487	102,168
2013	495	24,521	21,581	12,651	59,248
2014	205	20,515	52,158	3,403	76,281
2015	705	25,861	7,030	4,510	38,106
Average 2005–2014	1,692	31,866	18,833	13,003	65,393

Table 15.—Salmon spawning escapement estimates, Middle Fork Goodnews River, Kuskokwim Bay, 2005–2015.

Year	Middle Fork Goodnews River Weir Escapement			
	Chinook	Sockeye	Coho	Chum
2005	4,781	118,969	20,168	26,501
2006	4,572	127,245	26,909	54,689
2007	3,914	73,768	19,442	50,232
2008	2,223	43,879	37,690	39,548
2009	1,669	27,494	19,123	19,236
2010	2,176	36,574	26,287	24,789
2011	2,045	19,643	24,668	19,974
2012	524	29,531	13,679	9,065
2013	1,187	23,545	<sup>a</sup>	27,682
2014	750	41,473	5,294 <sup>c</sup>	11,518
2015 <sup>b</sup>	1,398	54,383	15,084 <sup>c</sup>	10,885
Esc Goal	1,500–	18,000–		
	2,900	40,000	>12,000	>12,000
Average				
2005–2014	2,384	54,212	21,473	28,323

<sup>a</sup> Weir did not operate or counts were incomplete.

<sup>b</sup> Preliminary numbers subject to change.

<sup>c</sup> Weir operations ended Aug 31